NAME

complex - complex arithmetic

LIBRARY

Math Library (libm, -lm)

SYNOPSIS

#include <complex.h>

DESCRIPTION

These functions support complex arithmetic in the C math library.

LIST OF FUNCTIONS

Each of the following *double complex* functions has a *float complex* counterpart with an ‘f’ appended to the name and a *long double complex* counterpart with an ‘l’ appended. As an example, the *float complex* and *long double complex* counterparts of *double* **cabs**(*double complex z*) are *float* **cabsf**(*float complex z*) and *long double* **cabsl**(*long double complex z*), respectively.

Absolute-value Functions

Name	Description
cabs	complex absolute value (i.e., norm, modulus, magnitude)
csqrt	complex square root

Exponential Function

Name	Description
cexp	exponential base e

Natural logarithm Function

Name	Description
clog	natural logarithm

Manipulation Functions

Name	Description
carg	compute the argument (i.e., phase angle)
cimag	compute the imaginary part
conj	compute the complex conjugate
cproj	compute projection onto Riemann sphere
creal	compute the real part

Trigonometric and Hyperbolic Functions

Name	Description
cacos	arc cosine
cacosh	arc hyperbolic cosine
casin	arc sine
casinh	arc hyperbolic sine
catan	arc tangent
catanh	arc hyperbolic tangent
ccos	cosine
ccosh	hyperbolic cosine
cpow	power function
csin	sine
csinh	hyperbolic sine
ctan	tangent
ctanh	hyperbolic tangent

SEE ALSO

fenv(3), ieee(3), math(3), tgmath(3)

ISO/IEC 9899:TC3, http://www.open-std.org/jtc1/sc22/wg14/www/docs/n1256.pdf.

STANDARDS

The <*complex.h*> functions described here conform to ISO/IEC 9899:1999 ("ISO C99").

BUGS

The power functions, **cpowf,**(*cpow*), and **cpowl**(), are implemented, but the code was neither reviewed nor tested.